



Infrastructure, buildings, environment, communications

369

ARCADIS G&M, Inc.
1400 No. Harbor Boulevard
Suite 700
Fullerton
California 92835-4127
Tel 714.278.0992
Fax 714.278.0051
www.arcadis-us.com

ATTN: Information Technology Unit

California Regional Water Quality Control Board
Los Angeles Region (RWQCB)
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject:

Second Quarter 2004 Discharge Monitoring Report
Waste Discharge Requirements Order Number R4-2002-0030 (Series 007)
Compliance File Number CI-95-036, SLIC 0410
Project Site: Former Boeing C-6 Facility (Building 2 Area), Los Angeles, California

ENVIRONMENTAL

Date:
July 22, 2004

Dear Information Technology Unit:

Contact:
Alistaire Callender, Ph.D.

On behalf of Boeing Realty Corporation (BRC), ARCADIS is submitting this quarterly monitoring report per the Waste Discharge Requirements (WDR) Order Number R4-2002-0030 (Series 007). The purpose of this report and future WDR reports is to provide the Los Angeles Regional Water Quality Control Board (RWQCB) with a summary of amendment and monitoring activities performed at the referenced project site. The site is located at 19503 Normandie Avenue. Figures 1 and 2 illustrate the site location and the site layout, respectively.

Phone:
3015

Email:
acallender@arcadis-us.com

Project Number:
CA000594.0003.00005

This monitoring report summarizes groundwater amendment and monitoring activities performed during the second quarter of 2004. Amendment activities performed to test the amendment system are summarized in Section 1.0. Groundwater monitoring activities performed to evaluate the initial distribution of amendment solution are summarized in Section 2.0. A certification statement is provided in Section 3.0.

1.0 Amendment Activities

Amendment solution was not injected at the site during the second quarter. However, a water test was conducted at each amendment point to evaluate the hydraulic performance of the bioremediation system. The water tests were performed according to the *Water Test Plan* (Plan) and the *Water Test Plan Addendum* (Addendum) issued by ARCADIS on May 18 and June 28, 2004, respectively. The Plan and the Addendum were approved by the RWQCB on May 21 and June 29, 2004. RWQCB correspondence regarding approval of the Plan and the Addendum is provided in Appendix A.

COPY

26 July 2004
C6-BRC-T-04-023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013



Attention: ATTN: Information Technology Unit

Subject: **COMPLIANCE FILE C1-95-036, ORDER NO. R4-2002-0030,
WASTE DISCHARGE REQUIREMENTS (WDR),
SECOND QUARTER 2004 DISCHARGE MONITORING REPORT,
IN-SITU BIOREMEDIATION PILOT STUDY AT BUILDING 2
(FILE NO. 95-036, SLIC 0410), BOEING REALTY CORPORATION,
FORMER C-6 FACILITY, 19503 SOUTH NORMANDIE AVENUE,
LOS ANGELES, CA**

To Whom It May Concern:

Please find enclosed for your review, a copy of the subject document prepared by Arcadis G&M, Inc. for Boeing Realty Corporation.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. [CWC Sections 13263, 13267, and 13268]

If you have any questions, please contact the undersigned at 949-790-1920.

Sincerely,

A handwritten signature in cursive script, appearing to read "Mario Stavale".

Mario Stavale
Boeing Realty Corporation

Cc: Robert Scott, Boeing Realty Corporation
 Dwight Merriman, RREEF

Enclosure

July 22, 2004

The water tests were conducted between June 21 and July 12, 2004. As requested by the RWQCB, ARCADIS will submit a report documenting the results of the water tests by December 31, 2004.

2.0 Monitoring Activities

During the second quarter of 2004, groundwater monitoring was conducted according to the *Supplemental Groundwater Monitoring* letter issued by ARCADIS on April 22, 2004. The monitoring was performed to evaluate the initial distribution of amendment solution after the incomplete first injection of carbohydrate solution in February 2004. These monitoring activities are performed in addition to the scheduled monitoring that will be performed after the first amendment event is completed. ARCADIS correspondence concerning the supplemental groundwater monitoring event is provided in Appendix A.

Groundwater monitoring was conducted on May 21, 2004 at monitoring wells IRZBMW001A/B, IRZBMW002A/B, IRZMW005, and CMW026 (Figure 2). The groundwater samples were analyzed for total organic carbon (TOC) using EPA Method 9060 Modified. Field parameters of purged groundwater were also collected (i.e. pH, dissolved oxygen, oxidation-reduction potential, specific conductance, and temperature).

Prior to collecting groundwater samples, depth to groundwater was measured in each monitoring well by using a water level meter accurate to 0.01 feet. Groundwater samples were collected using low flow sampling techniques, so that the purge rate was generally less than 600 milliliters per minute (mL/min) and drawdown while purging was less than 1 foot. Since recharge of monitoring well IRZMW0002A does not support use of low flow sampling techniques, the monitoring well was purged dry prior to sampling.

The sampling methodology also involved use of a flow-through cell that houses field instrumentation used to measure groundwater stabilization parameters (i.e., temperature, pH, specific conductance, oxygen reduction potential, etc.). For each monitoring well, the flow-through cell was connected to a submersible pump with dedicated polyethylene tubing. Once the field parameters stabilized, groundwater samples were collected in laboratory-prepared containers. Field parameters and other relevant sampling data were documented on sample collection logs. The groundwater samples were transported in a chilled ice chest with chain-of-custody documentation and to an analytical laboratory certified by the State of California (Severn Trent Laboratories, Inc.).

Field parameter data and analytical results from the supplemental groundwater sampling event are summarized in Table 1. Laboratory analytical data with associated chain-of-custody documentation are presented in Appendix B. Sample

July 22, 2004

collection logs with field parameter and monitoring well sampling data are maintained in the project files.

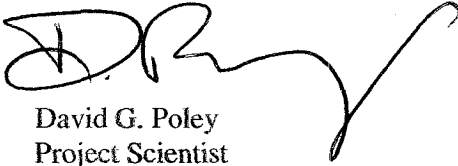
3.0 Certification Statement

I declare under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

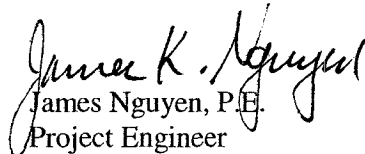
If you have any questions or comments regarding this discharge monitoring report, please contact Alistaire Callender or David Poley at (714) 278-0992.

Sincerely,

ARCADIS G&M, Inc.



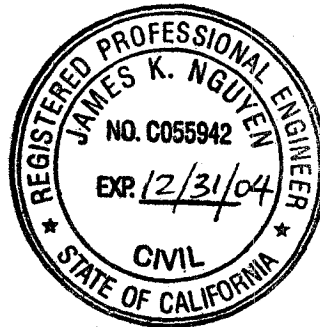
David G. Poley
Project Scientist



James K. Nguyen, P.E.
Project Engineer



Alistaire Callender, Ph.D.
Project Manager



Copies:

Robert Scott, Boeing Realty Corporation
Scott Zachary, Haley & Aldrich
Project File

Enclosures:

Table 1 - Baseline and Supplemental Groundwater Monitoring Results

Figure 1 - Site Location

Figure 2 - Amendment Point and Monitoring Well Locations

Appendix A - Amendment and Monitoring Activity Correspondence

Appendix B - Laboratory Analyses and Chain-of-Custody

G:\APROJECT\Boeing CA000594\Reports\WDR Reports\2nd Qtr 2004\WDR 2 Qtr 2004.doc

Page:

3/3

TABLES



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Tables

**Table 1. Baseline and Supplemental Groundwater Monitoring Results
Former Building 2 Area, Former Boeing C-6 Facility**

Well Number	Screened Zone	Well Group	Sample Date	Top of Casing (feet msl)	Depth to Water (feet)	Groundwater Elevation (feet msl)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Temperature (°C)	Specific Conductance (mS/cm)	Total Organic Carbon (mg/L)
IRZMW001A	Zone B	A	10/30/2003	54.18	68.05	-13.87	6.7	4.8	245.9	21.85	2,354	5.0
			5/21/2004		68.61	-14.43	7.1	2.7	47.4	25.27	2,595	5.5
IRZMW001B		A	10/30/2003	54.10	67.98	-13.88	6.8	6.2	159.6	21.83	1,254	3.8
			5/21/2004		68.11	-14.01	7.3	6.8	78.3	23.69	1,278	3.6
IRZMW002A		A	10/30/2003	54.07	67.98	-13.91	6.8	3.1	-140.7	22.06	1,852	21.8
			5/21/2004		68.39	-14.32	7.2	0.9	-52.5	22.12	2,038	13.3
IRZMW002B		A	10/30/2003	54.17	68.07	-13.90	6.8	4.1	110.3	21.73	1,125	4.1
			5/21/2004		68.97	-14.80	7.2	4.2	45.5	24.04	1,204	5.2
IRZMW005		A	10/9/2003	50.19	64.44	-14.25	7.1	5.3	40.8	21.64	1,591	3.9
			5/21/2004		64.52	-14.33	7.3	5.8	89.6	21.73	1,546	5.6
CMW026	Zone C	A	10/7/2003	48.94	63.38	-14.44	7.2	4.5	34.0	22.31	965	2.0
			5/21/2004		63.59	-14.65	7.2	0.3	-26.4	21.62	1,016	6.5
EPA Analytical Method						N/A	N/A	N/A	N/A	N/A	N/A	9060

Notes:

Group A: wells located within the estimated injection area

feet msl - feet above mean sea level

mg/L - milligrams per liter

mV - millivolts

°C - degrees Celsius

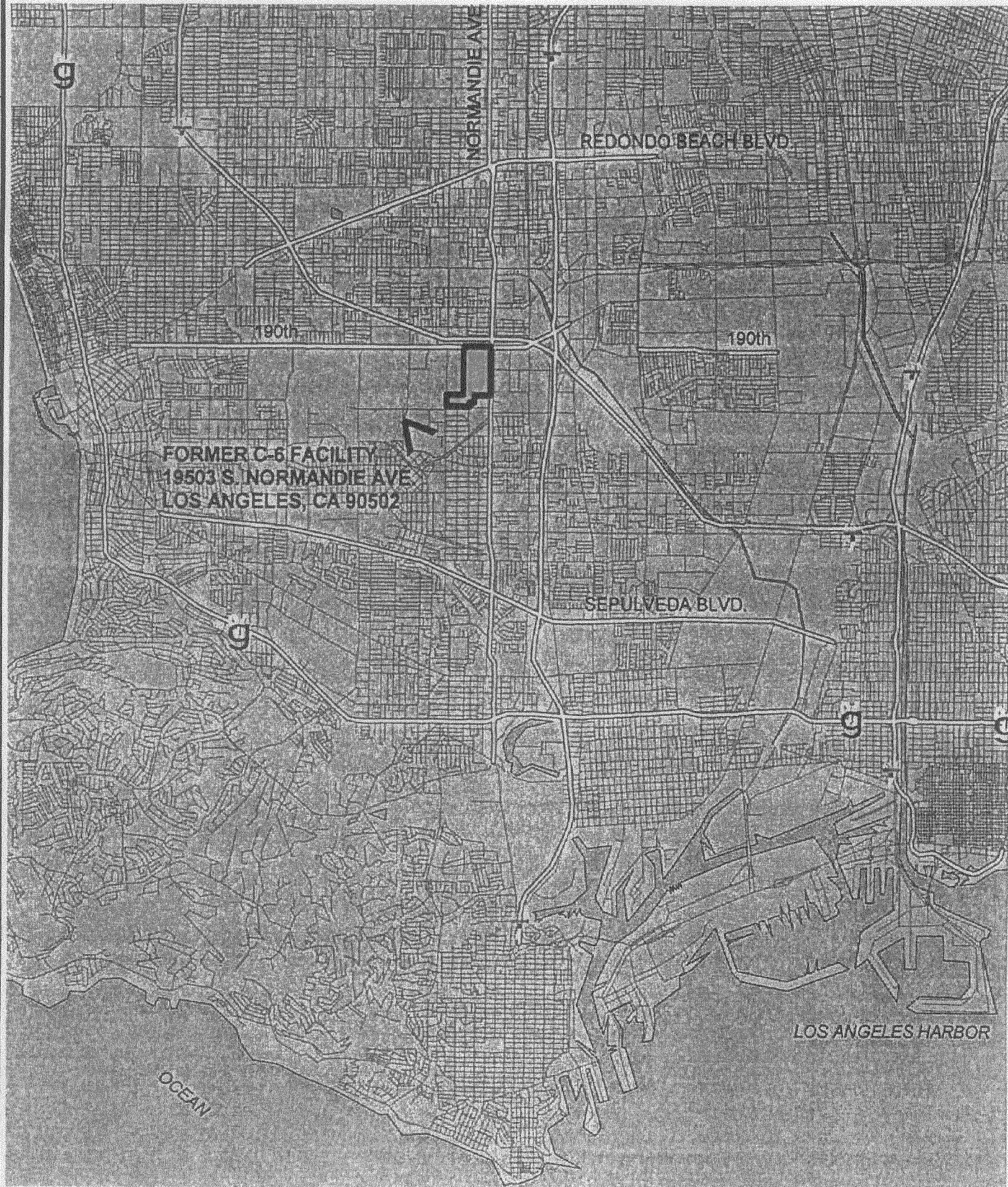
mS/cm - millisiemens per centimeter

NA - Not applicable



ARCADIS

Figures



Base map download from 'Tiger File' data website hosted by ESRI.

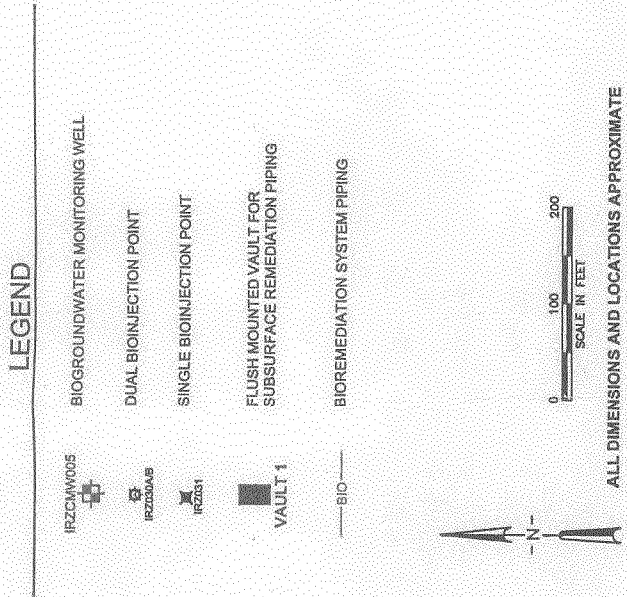
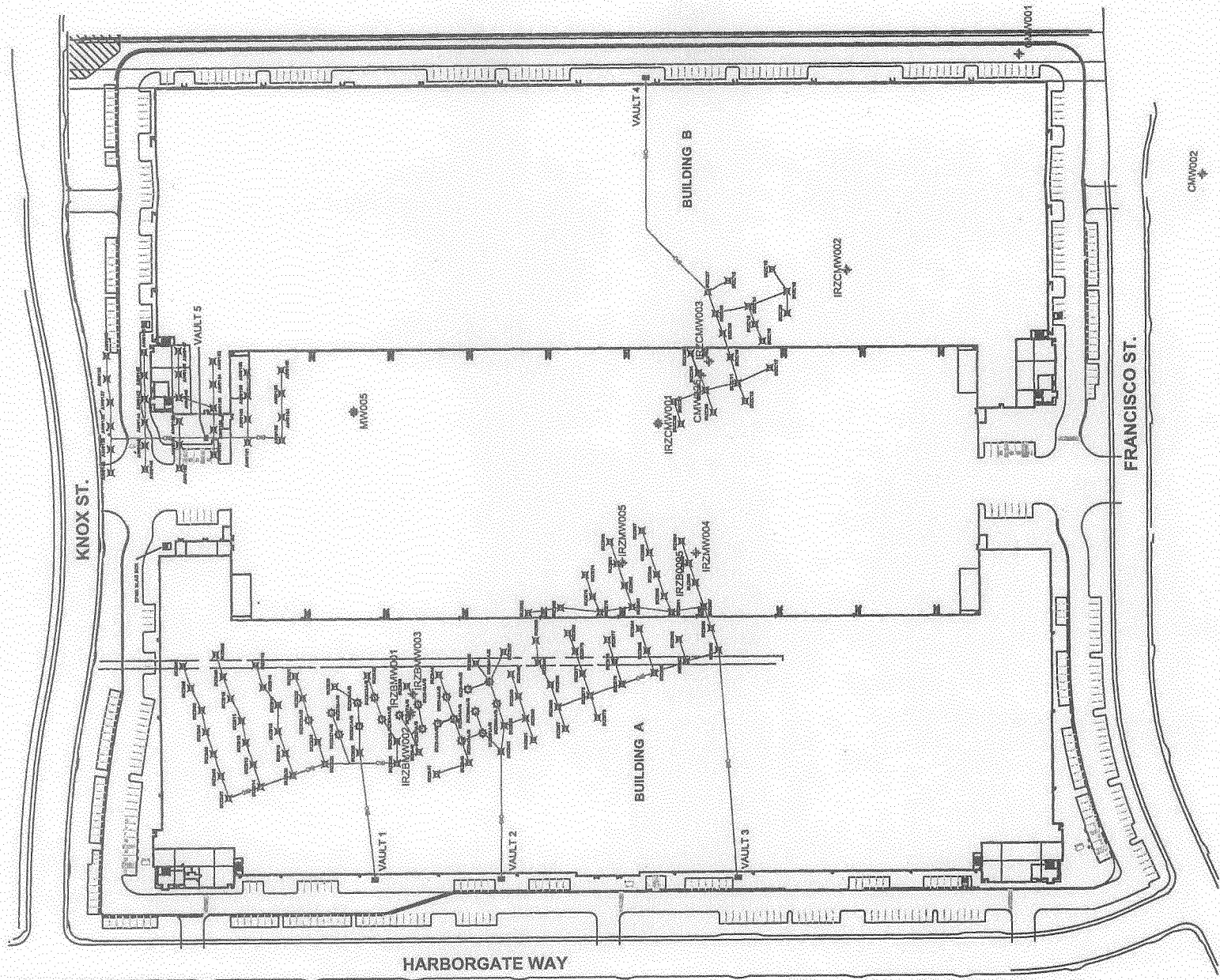


SITE LOCATION

BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE

1



**AMENDMENT POINT AND
MONITORING WELL LOCATIONS**
BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA



ARCADIS

Appendix A

Amendment and Monitoring Activity Correspondence



California Regional Water Quality Control Board Los Angeles Region



Terry Tamminen
Secretary for
Environmental
Protection

Over 51 Years Serving Coastal Los Angeles and Ventura Counties
Recipient of the 2001 Environmental Leadership Award from Keep California Beautiful

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.swrcb.ca.gov/rwqcb4>

Arnold Schwarzenegger
Governor

June 29, 2004

RECEIVED

JUN 30 2004

ARCADIS Geraghty & Miller

Brian Mossman
Boeing Realty Corporation
4900 E. Conant St. Building #1
Long Beach, CA 90808

WATER TEST PLAN ADDENDUM, GROUNDWATER REMEDIATION, BOEING REALTY CORPORATION, FORMER C-6 FACILITY, 19503 NORMANDIE AVENUE, LOS ANGELES (FILE NO. 95-036)

Dear Mr. Mossman:

We have reviewed the "Water Test Plan (Addendum)" dated June 28, 2004, prepared by Arcadis G&M, Incorporated. Boeing has applied for and received General Waste Discharge Requirements for the injection of a carbohydrate solution into the groundwater beneath the C-6 facility to remediate volatile organic compounds. Boeing constructed a network of injection wells and associated piping beneath the Building 1/36 and Building 2 areas and Boeing injected water to test the hydraulic performance of the Building 2 injection network pursuant to the Water Test Plan dated May 18, 2004, which was approved by the Regional Board on May 21, 2004.

The Water Test Plan (Addendum) Boeing proposes to conduct a subsequent test of the Building 1/36 injection system following the same procedures as previously approved. The existing site-wide groundwater-monitoring program is adequate to monitor groundwater quality and flow conditions across the site and no additional monitoring requirements are necessary for the additional wells to be tested.

We have completed our review of the Water Test Plan (Addendum) and approve its implementation. Please submit report containing the results of the water testing by **December 31, 2004**. Please call me at (213) 576-6737 if you have any questions.

Sincerely,

John Geroch
Associate Engineering Geologist
Site Cleanup Unit

cc: Scott Zachary, Haley & Aldrich
James Nguyen, Arcadis

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

BOE-C6-0066650



Infrastructure, buildings, environment, communications

ATTN: Mr. John Geroch

California Regional Water Quality Control Board
Los Angeles Region (RWQCB)
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject:

Supplemental Groundwater Monitoring
Waste Discharge Requirements Order Number R4-2002-0030 (Series 007)
Compliance File Number CI-95-036, SLIC 0410
Project Site: Former Boeing C-6 Facility (Building 2 Area), Los Angeles, California

Dear Mr. Geroch:

The purpose of this letter is to propose performing supplemental groundwater monitoring prior to completion of the first amendment addition at the former Boeing C6 Site, Los Angeles, California (Figure 1). An initial schedule was outlined in the above-referenced WDR permit dated February 4, 2003. As outlined in the permit, the baseline sampling event was to be conducted in October 2003. The baseline sampling event was completed in October 2003 as scheduled and reported to the RWQCB in a letter dated November 24, 2003. Subsequent monitoring events hinge on the completion of the first amendment. However, due to delays with building construction activities and the release of carbohydrate solution that occurred on February 23 and 24, 2004 (*Notification of Leakage of Molasses Solution* letter submitted to the RWQCB dated February 27, 2004) during the first amendment addition, we are proposing to perform supplemental monitoring during this interim period to evaluate amendment distribution prior to completion of the first amendment.

Due to the release of the carbohydrate solution, amendment activities were immediately terminated and the RWQCB notified. The condition of the amendment points and lateral lines is being evaluated using potable water for testing. Amendment activities are currently suspended and will resume after the water test is completed, the potential causes of the release are assessed, and the delivery method is modified to prevent future release. Currently, the water test is scheduled for either April or May 2004.

Per the WDR permit, the first monitoring event will be conducted 2 weeks after completing the first amendment event. The monitoring frequency as set forth in the permit is to conduct monitoring after 2, 6, 12, 16, 21, and 36 weeks after the first

Part of a bigger picture

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ENVIRONMENTAL

Date:
22 April 2004

Contact:
James K. Nguyen, P.E.

Phone:
Ext. 3026

Project Number:
CA000594.0003.00005

ARCADIS

Mr. John Geroch
April 22, 2004

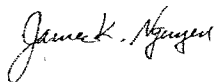
amendment event and quarterly thereafter. As outlined in the permit, monitoring events were scheduled for November and December 2003, January, February, March, and July 2004. However, due to the delays mentioned above, we propose to perform supplemental monitoring to monitor the distribution of placed amendment during this interim period. Monitoring will still be conducted 2, 6, 12, 16, 21, and 36 weeks after the completion of the first injection event, and quarterly thereafter in accordance with the permit. Since the first amendment event was postponed until June 2004, the first monitoring event will likely be conducted in late June or early July 2004.

During the interim period while the injection system is being evaluated, the supplemental groundwater monitoring program will consist of collecting additional groundwater samples to evaluate the amendment distribution. It is proposed that monitoring be conducted in May 2004 from the following monitoring wells: IRZBMW001A/B, IRZBMW002A/B, IRZMW005, and CMW026 (Figure 2). Samples will be collected and analyzed for total organic carbon using EPA Method 9060 Modified. In addition, field parameters will also be collected (i.e. pH, dissolved oxygen, oxidation-reduction potential, specific conductance, and temperature). Sampling protocol will be conducted as described in the IRZ pilot test workplan. Samples will be collected from these during the week of May 17th.

If you have any questions or comments regarding this letter, please contact Jim Nguyen at (714) 278-0992.

Sincerely,

ARCADIS G&M, Inc.



James K. Nguyen, P. E.
Project Manager

Enclosures

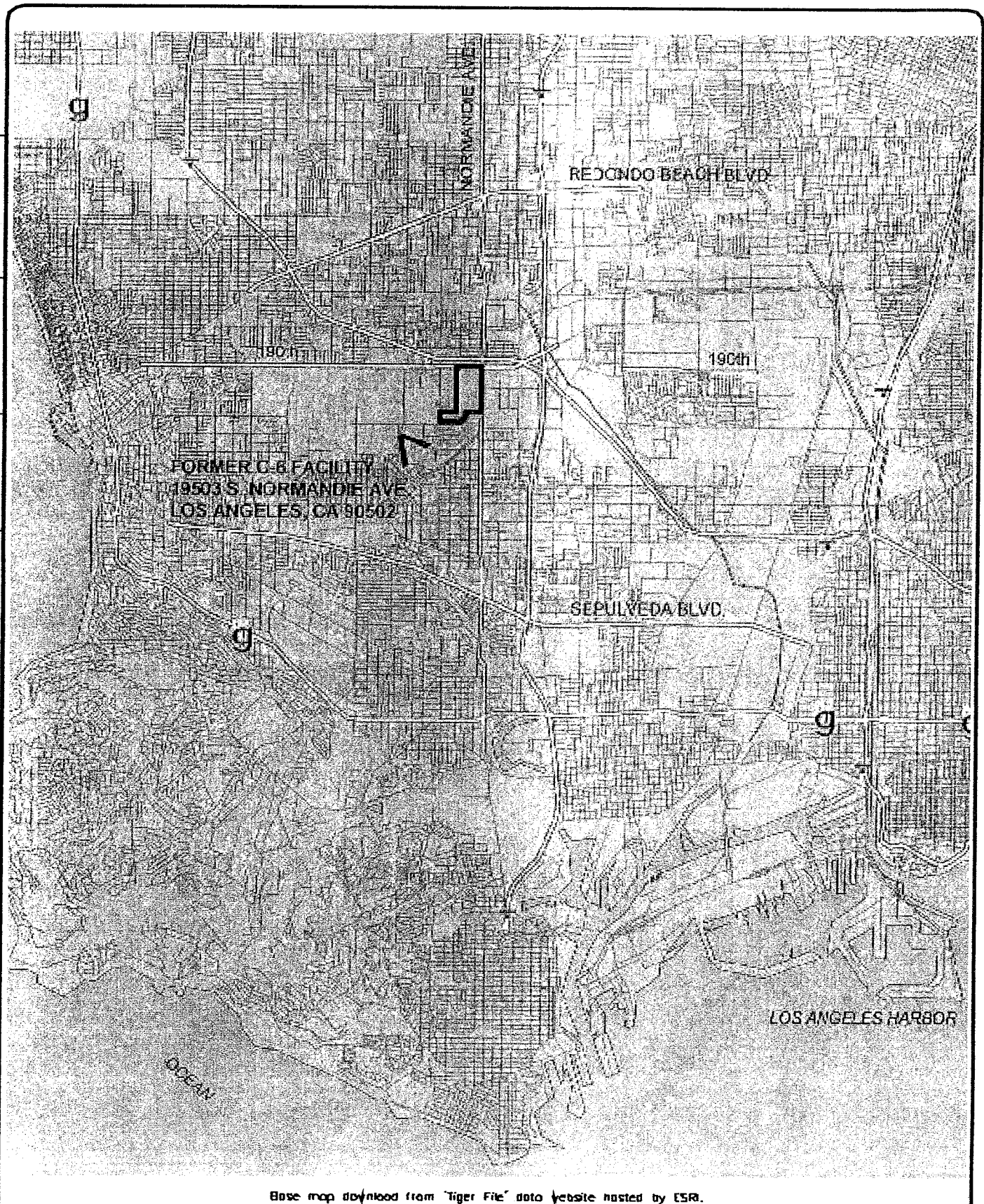
Figures: 1 – Site Location Map
2 – Amendment Point and Monitoring Well Locations

Copies:

Robert Scott, Boeing
Scott Zachary, Haley & Aldrich
Project File

ARCADIS

Figures



Base map downloaded from "Tiger File" data website hosted by ESRI.



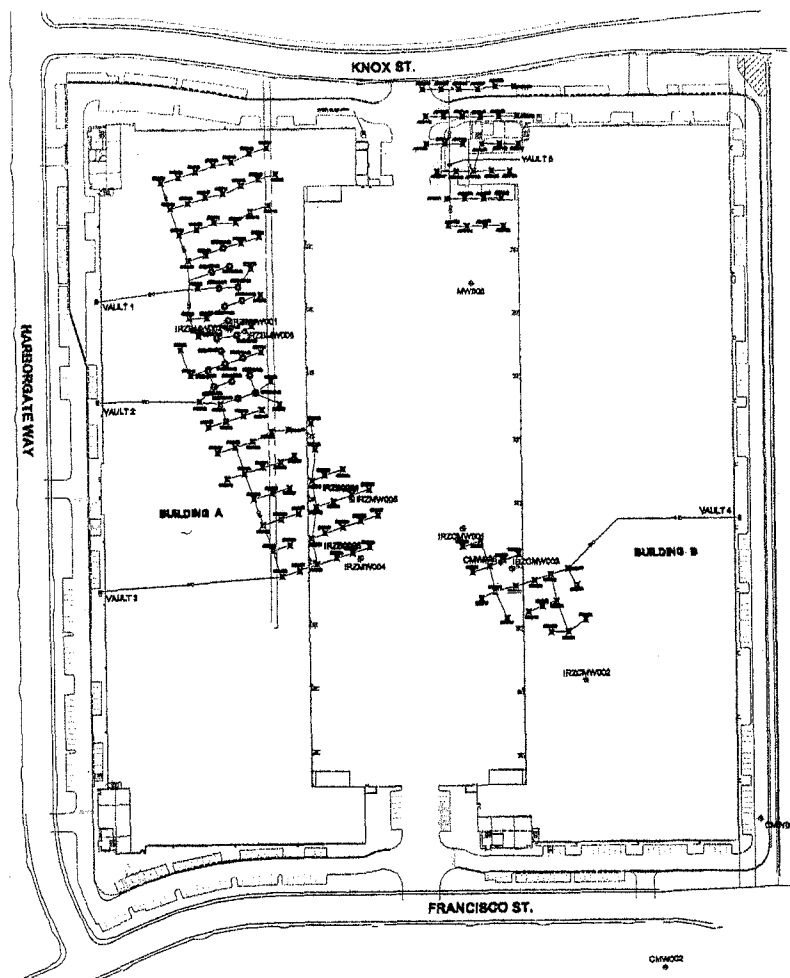
SITE LOCATION

BOEING REALTY CORPORATION
 FORMER C-6 FACILITY
 LOS ANGELES, CALIFORNIA

FIGURE

1

DATE: 1/9/04 | TIME: 11:30 | PROJ#: CA 594.03.01 | DWG: C:\drawings\project\boeing\2003\Site Map-survey-coords | FILE: | CHK: LOTHMAN | PM: NGUYEN | ART: QUINONES



BASE MAP PROVIDED BY HILL PINKERT ARCHITECTS, INC. IN FEBRUARY 2003



AMENDMENT POINT AND MONITORING WELL LOCATIONS

BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE

2



Infrastructure, buildings, environment, communications

ARCADIS G&M, Inc.
1400 No. Harbor Boulevard
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Tel 714.278.0992
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ATTN: Mr. John Geroch
California Regional Water Quality Control Board
Los Angeles Region (RWQCB)
320 West 4th Street, Suite 200
Los Angeles, California 90013

ENVIRONMENTAL

Subject:

Notification of Supplemental Groundwater Monitoring
Waste Discharge Requirements Order Number R4-2002-0030 (Series 007)
Compliance File Number CI-95-036, SLIC 0410
Project Site: Former Boeing C-6 Facility (Building 2 Area), Los Angeles, California

Date:
20 May 2004

Dear Mr. Geroch:

Contact:
James K. Nguyen, P.E.

The purpose of this letter is to notify the Regional Water Quality Control Board (RWQCB) that groundwater monitoring will be conducted at the subject project site on May 21, 2004. Monitoring will be conducted per the *Supplemental Groundwater Monitoring* letter submitted to the RWQCB on April 22, 2004.

Phone:
Ext. 3026

Please contact me at (714) 278-0992 if you have any questions regarding this letter.

Project Number:
CA000594.0003.00005

Sincerely,

ARCADIS G&M, Inc.

James K. Nguyen, P. E.
Project Manager

Copies:

Robert Scott, Boeing
Scott Zachary, Haley & Aldrich
Project File

Part of a bigger picture



ARCADIS

Appendix B
Laboratory Analyses and Chain-of-Custody



STL

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

June 2, 2004

STL LOT NUMBER: E4E220134
NELAP Certification Number: 01118CA/E87652

Jim Nguyen
ARCADIS Geraghty & Miller, Inc
1400 N. Harbor Blvd.
Suite 700
Fullerton, CA 92835-4127

Dear Mr. Nguyen,

This report contains the analytical results for the eight samples received under chain of custody by STL Los Angeles on May 21, 2004. These samples are associated with your Boeing former C6 Torrance, California project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page. Historical control limits for the LCS are used to define the estimate of uncertainty for a method. See Project Receipt Checklist for container temperature and conditions. Temperature reading between 2 to 6 degrees Celsius is considered within acceptable criteria. Any matrix related anomaly is footnoted within the report.

STL Los Angeles certifies that the tests performed at our facility meet all NELAP requirements for parameters for which accreditation is required or available. The case narrative is an integral part of the report. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at (714) 258-8610 extension 313.

Sincerely,

Diane Suzuki
Customer Service Manager

CC: Project File

000032

Page 1 of _____ total pages in this report.

LOT NUMBER E4E220134

Nonconformance 05-08862

Affected Samples:

E4E220134 (8): TRIP BLANK

Affected Methods:

8260B, 9060

Case Narrative:

Two VOA vials from sample E4E220134 (8): TRIP BLANK contain bubbles >5mm diameter. Analysis is performed on a VOA vial without headspace when available.

000002



Chain of Custody Record

SEVERN
TRENT

STL

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client ARCADIS		Project Manager Dave Polley		Date 5/21/04	Chain of Custody Number 164824
Address 1400 N. Harbor Blvd		Telephone Number (Area Code)/Fax Number (714) 278-0992 / (714) 278-0051		Lab Number 222034	Page 1 of 1
City Fulerton	State CA	Zip Code 92835	Site Contact H. Hernandez	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State) Boeing C-6			Carrier/Waybill Number		
Contract/Purchase Order/Quote No.					

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives						TOC	VOCs	Special Instructions/ Conditions of Receipt									
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH												
CMW026-WG-052104-01	5/21/04	0902	X					X					X											
IRZMW005-WG-052104-01	5/21/04	1012	X					X					X											
IRZMW002A-WG-052104-01	5/21/04	1258	X					X					X											
IRZMW002B-WG-052104-01	5/21/04	1332	X					X					X											
IRZMW001A-WG-052104-01	5/21/04	1407	X					X					X											
IRZMW001B-WG-052104-01	5/21/04	1439	X					X					X											
Wastewater Drum # 401	5/21/04	1600	X							X			X											
Trip Blank	5/21/04	—	X							X			X											

Possible Hazard Identification			Sample Disposal			(A fee may be assessed if samples are retained longer than 1 month)			
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client	<input type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For _____ Months		
Turn Around Time Required			QC Requirements (Specify)						
<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> 7 Days	<input type="checkbox"/> 14 Days	<input type="checkbox"/> 21 Days	<input type="checkbox"/> Other _____				
1. Relinquished By 			Date 5/21/04	Time 1735	1. Received By 			Date 5-21-04	Time 1735
2. Relinquished By			Date	Time	2. Received By			Date	Time
3. Relinquished By			Date	Time	3. Received By			Date	Time

Comments

3.6°C + 0.6°F = 4.2°C RS 5/21/04

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

BOE-C6-0066661

STL LOS ANGELES - PROJECT RECEIPT CHECKLIST

Date: 05/22/04LIMS Lot #: 220134

Quote #: _____

Client Name: Arcadis

Project: _____

Received by: 728Date/Time Received: 5-21-04 1735Delivered by: ☒ Client ☐ STL ☐ Airborne ☐ Fed Ex ☐ UPS ☐ Other _____

Initial / Date

Custody Seal Status Cooler: ☐ Intact ☐ Broken ☒ None 728/5-21-04Custody Seal Status Samples: ☐ Intact ☐ Broken ☒ NoneCustody Seal #(s): _____ ☒ No Seal #Sampler Signature on COC ☐ Yes ☐ No ☒ N/AIR Gun # B Correction Factor +0.6 °C IR passed daily verification ☒ Yes ☐ NoTemperature - BLANK 3.6 °C 0.6 CF = 4.2 °CTemperature - COOLER (_____ °C _____ °C _____ °C _____ °C) = _____ avg °C + 0.6 (CF) = _____ °C AK/5/22/04Samples outside temperature criteria but received within 6 hours of final sampling ☐ Yes ☒ N/ASample Container(s): ☒ STL-LA ☐ ClientOne COC/Multiple coolers: ☐ Yes - # coolers _____ All within temp criteria ☐ Yes ☐ No ☒ N/AOne or more coolers with an anomaly: ☐ Yes - (fill out PRC for each) ☒ N/ASamples: ☒ Intact ☐ Broken ☐ OtherpH measured: ☒ Yes ☐ Anomaly (if checked, notify lab and file NCM) ☐ N/AAnomalies: ☒ No ☒ Yes - complete CUR and Create NCM NCM # _____Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ Yes ☒ N/ALabeled by: AK Labeling checked: AKTurn Around Time: ☐ RUSH-24HR ☐ RUSH-48HR ☐ RUSH-72HR ☒ NORMALShort-Hold Notification: ☐ pH ☐ Wet Chem ☐ Metals (Filter/Pres) ☐ Encore ☐ >1/2 HT expired...

Outside Analysis(es) (Test/Lab/Date Sent Out):

***** LEAVE NO BLANK SPACES : USE N/A *****

Headspace Anomaly

☒ N/A AK/5/22/04

Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
<u>005</u>	<u>1, 2</u>	<input checked="" type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm			<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm
		<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm			<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm
		<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm			<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm
		<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm			<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm
		<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm			<input type="checkbox"/> > 5mm <input type="checkbox"/> < 5mm
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Analytical Report



EXECUTIVE SUMMARY - Detection Highlights

E4E220134

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
CMW026_WG_052104_01 05/21/04 09:02 001				
Total Organic Carbon (TOC)	6.5	1.0	mg/L	SW846 9060
IRZMW005_WG_052104_01 05/21/04 10:12 002				
Total Organic Carbon (TOC)	5.6	1.0	mg/L	SW846 9060
IRZMW002A_WG_052104_01 05/21/04 12:58 003				
Total Organic Carbon (TOC)	13.3	1.0	mg/L	SW846 9060
IRZMW002B_WG_052104_01 05/21/04 13:32 004				
Total Organic Carbon (TOC)	5.2	1.0	mg/L	SW846 9060
IRZMW001A_WG_052104_01 05/21/04 14:07 005				
Total Organic Carbon (TOC)	5.5	1.0	mg/L	SW846 9060
IRZMW001B_WG_052104_01 05/21/04 14:39 006				
Total Organic Carbon (TOC)	3.6	1.0	mg/L	SW846 9060
WASTEWATER DRUM #401 05/21/04 16:00 007				
Chloroform	3.8 J	10	ug/L	SW846 8260B
1,1-Dichloroethene	8.4 J	10	ug/L	SW846 8260B
cis-1,2-Dichloroethene	15	10	ug/L	SW846 8260B
Trichloroethene	970	10	ug/L	SW846 8260B

METHODS SUMMARY

E4E220134

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Total Organic Carbon	SW846 9060	SW846 9060
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E4E220134

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
GGVT5	001	CMW026_WG_052104_01	05/21/04	09:02
GGVT6	002	IRZMW005_WG_052104_01	05/21/04	10:12
GGVT7	003	IRZMW002A_WG_052104_01	05/21/04	12:58
GGVVA	004	IRZMW002B_WG_052104_01	05/21/04	13:32
GGVVD	005	IRZMW001A_WG_052104_01	05/21/04	14:07
GGVVF	006	IRZMW001B_WG_052104_01	05/21/04	14:39
GGVVH	007	WASTEWATER DRUM #401	05/21/04	16:00
GGVVT	008	TRIP BLANK	05/21/04	

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: CMW026_WG_052104_01

General Chemistry

Lot-Sample #....: E4E220134-001 Work Order #....: GGVT5 Matrix.....: WATER
 Date Sampled....: 05/21/04 09:02 Date Received...: 05/21/04 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	6.5	1.0	mg/L	SW846 9060	05/24/04	4145601

Dilution Factor: 1 Analysis Time...: 15:04 Analyst ID.....: 999995
 Instrument ID...: W08 MS Run #.....: 4145330 MDL.....: 0.40

ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: IRZMW005_WG_052104_01

General Chemistry

Lot-Sample #....: E4E220134-002 Work Order #....: GGVT6 Matrix.....: WATER
Date Sampled....: 05/21/04 10:12 Date Received...: 05/21/04 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	5.6	1.0	mg/L	SW846 9060	05/24/04	4145601

Dilution Factor: 1

Analysis Time...: 15:04

Analyst ID.....: 9999950

Instrument ID...: W08

MS Run #.....: 4145330

MDL.....: 0.40

ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: IRZMW002A_WG_052104_01

General Chemistry

Lot-Sample #....: E4E220134-003 Work Order #....: GGVT7 Matrix.....: WATER
 Date Sampled....: 05/21/04 12:58 Date Received...: 05/21/04 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	13.3	1.0	mg/L	SW846 9060	05/24/04	4145601

Dilution Factor: 1	Analysis Time...: 15:04	Analyst ID.....: 9999950
Instrument ID...: W08	MS Run #.....: 4145330	MDL.....: 0.40

ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: IRZMW002B_WG_052104_01

General Chemistry

Lot-Sample #....: E4E220134-004 Work Order #....: GGVVA Matrix.....: WATER
Date Sampled....: 05/21/04 13:32 Date Received...: 05/21/04 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	5.2	1.0	mg/L	SW846 9060	05/24/04	4145601

Dilution Factor: 1
Instrument ID...: W08

Analysis Time...: 15:04 Analyst ID.....: 9999950
MS Run #.....: 4145330 MDL.....: 0.40

ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: IRZMW001A_WG_052104_01

General Chemistry

Lot-Sample #....: E4E220134-005 Work Order #....: GGVVD Matrix.....: WATER
 Date Sampled....: 05/21/04 14:07 Date Received...: 05/21/04 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	5.5	1.0	mg/L	SW846 9060	05/24/04	4145601

Dilution Factor: 1 Analysis Time...: 15:04 Analyst ID.....: 9999950
 Instrument ID...: W08 MS Run #.....: 4145330 MDL.....: 0.40

ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: IRZMW001B_WG_052104_01

General Chemistry

Lot-Sample #....: E4E220134-006 Work Order #....: GGVVF Matrix.....: WATER
 Date Sampled....: 05/21/04 14:39 Date Received...: 05/21/04 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	3.6	1.0	mg/L	SW846 9060	05/24/04	4145601

Dilution Factor: 1
 Instrument ID...: W08

Analysis Time...: 15:04 Analyst ID.....: 9999950
 MS Run #.....: 4145330 MDL.....: 0.40

ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: WASTEWATER DRUM #401

GC/MS Volatiles

Lot-Sample #....: E4E220134-007 Work Order #....: GGVVH1AA Matrix.....: WATER
 Date Sampled....: 05/21/04 16:00 Date Received...: 05/21/04 17:35 MS Run #.....: 4147291
 Prep Date.....: 05/25/04 Analysis Date...: 05/25/04
 Prep Batch #....: 4147474 Analysis Time...: 22:30
 Dilution Factor: 10
 Analyst ID.....: 015590 Instrument ID...: MSR
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	100	ug/L	30
Benzene	ND	10	ug/L	3.0
Bromobenzene	ND	10	ug/L	3.0
Bromochloromethane	ND	10	ug/L	3.0
Bromoform	ND	10	ug/L	3.0
Bromomethane	ND	20	ug/L	10
2-Butanone	ND	50	ug/L	30
n-Butylbenzene	ND	10	ug/L	3.0
sec-Butylbenzene	ND	10	ug/L	3.0
tert-Butylbenzene	ND	10	ug/L	2.0
Carbon disulfide	ND	10	ug/L	3.0
Carbon tetrachloride	ND	10	ug/L	3.0
Chlorobenzene	ND	10	ug/L	3.0
Dibromochloromethane	ND	10	ug/L	4.0
Bromodichloromethane	ND	10	ug/L	3.0
Chloroethane	ND	20	ug/L	3.0
Chloroform	3.8 J	10	ug/L	3.0
Chloromethane	ND	20	ug/L	3.0
2-Chlorotoluene	ND	10	ug/L	3.0
4-Chlorotoluene	ND	10	ug/L	3.0
1,2-Dibromo-3-chloro- propane	ND	20	ug/L	7.0
1,2-Dibromoethane (EDB)	ND	10	ug/L	3.0
Dibromomethane	ND	10	ug/L	4.0
1,2-Dichlorobenzene	ND	10	ug/L	3.0
1,3-Dichlorobenzene	ND	10	ug/L	3.0
1,4-Dichlorobenzene	ND	10	ug/L	3.0
Dichlorodifluoromethane	ND	20	ug/L	4.0
1,1-Dichloroethane	ND	10	ug/L	2.0
1,2-Dichloroethane	ND	10	ug/L	4.0
1,1-Dichloroethene	8.4 J	10	ug/L	3.0
cis-1,2-Dichloroethene	15	10	ug/L	3.0
trans-1,2-Dichloroethene	ND	10	ug/L	3.0
1,2-Dichloropropane	ND	10	ug/L	3.0
1,3-Dichloropropane	ND	10	ug/L	4.0
2,2-Dichloropropane	ND	10	ug/L	3.0
1,1-Dichloropropene	ND	10	ug/L	3.0

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ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: WASTEWATER DRUM #401

GC/MS Volatiles

Lot-Sample #....: E4E220134-007 Work Order #....: GGVVH1AA Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
cis-1,3-Dichloropropene	ND	10	ug/L	3.0
trans-1,3-Dichloropropene	ND	10	ug/L	5.0
Ethylbenzene	ND	10	ug/L	2.0
Hexachlorobutadiene	ND	10	ug/L	3.0
2-Hexanone	ND	50	ug/L	30
Isopropylbenzene	ND	10	ug/L	3.0
p-Isopropyltoluene	ND	10	ug/L	3.0
Methylene chloride	ND	10	ug/L	3.0
4-Methyl-2-pentanone	ND	50	ug/L	30
Methyl tert-butyl ether	ND	10	ug/L	5.0
Naphthalene	ND	10	ug/L	5.0
n-Propylbenzene	ND	10	ug/L	4.0
Styrene	ND	10	ug/L	3.0
1,1,1,2-Tetrachloroethane	ND	10	ug/L	3.0
1,1,2,2-Tetrachloroethane	ND	10	ug/L	4.0
Tetrachloroethene	ND	10	ug/L	3.0
Toluene	ND	10	ug/L	3.0
1,2,3-Trichlorobenzene	ND	10	ug/L	4.0
1,2,4-Trichloro- benzene	ND	10	ug/L	3.0
1,1,1-Trichloroethane	ND	10	ug/L	2.0
1,1,2-Trichloroethane	ND	10	ug/L	3.0
Trichloroethene	970	10	ug/L	3.0
Trichlorofluoromethane	ND	20	ug/L	3.0
1,2,3-Trichloropropane	ND	10	ug/L	4.0
1,1,2-Trichlorotrifluoro- ethane	ND	10	ug/L	4.0
1,2,4-Trimethylbenzene	ND	10	ug/L	3.0
1,3,5-Trimethylbenzene	ND	10	ug/L	2.0
Vinyl chloride	ND	10	ug/L	3.0
m-Xylene & p-Xylene	ND	10	ug/L	5.0
o-Xylene	ND	10	ug/L	2.0
Xylenes (total)	ND	10	ug/L	8.0
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Bromofluorobenzene	86	(75 - 130)		
1,2-Dichloroethane-d4	107	(65 - 135)		
Toluene-d8	107	(80 - 130)		

NOTE(S) :

J Estimated result. Result is less than RL.

ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: E4E220134-008 Work Order #....: GGVVT1AA Matrix.....: WQ
 Date Sampled....: 05/21/04 Date Received...: 05/21/04 17:35 MS Run #.....: 4147291
 Prep Date.....: 05/25/04 Analysis Date...: 05/25/04
 Prep Batch #....: 4147474 Analysis Time...: 18:00
 Dilution Factor: 1
 Analyst ID.....: 015590 Instrument ID...: MSR
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	3.0
Benzene	ND	1.0	ug/L	0.30
Bromobenzene	ND	1.0	ug/L	0.30
Bromochloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
2-Butanone	ND	5.0	ug/L	3.0
n-Butylbenzene	ND	1.0	ug/L	0.30
sec-Butylbenzene	ND	1.0	ug/L	0.30
tert-Butylbenzene	ND	1.0	ug/L	0.20
Carbon disulfide	ND	1.0	ug/L	0.30
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Bromodichloromethane	ND	1.0	ug/L	0.30
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
2-Chlorotoluene	ND	1.0	ug/L	0.30
4-Chlorotoluene	ND	1.0	ug/L	0.30
1,2-Dibromo-3-chloro- propane	ND	2.0	ug/L	0.70
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.30
Dibromomethane	ND	1.0	ug/L	0.40
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	2.0	ug/L	0.40
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
1,3-Dichloropropane	ND	1.0	ug/L	0.40
2,2-Dichloropropane	ND	1.0	ug/L	0.30
1,1-Dichloropropene	ND	1.0	ug/L	0.30

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ARCADIS GERAGHTY & MILLER, INC

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: E4E220134-008 Work Order #....: GGVVT1AA Matrix.....: WQ

		REPORTING		
PARAMETER	RESULT	LIMIT	UNITS	MDL
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Hexachlorobutadiene	ND	1.0	ug/L	0.30
2-Hexanone	ND	5.0	ug/L	3.0
Isopropylbenzene	ND	1.0	ug/L	0.30
p-Isopropyltoluene	ND	1.0	ug/L	0.30
Methylene chloride	ND	1.0	ug/L	0.30
4-Methyl-2-pentanone	ND	5.0	ug/L	3.0
Methyl tert-butyl ether	ND	1.0	ug/L	0.50
Naphthalene	ND	1.0	ug/L	0.50
n-Propylbenzene	ND	1.0	ug/L	0.40
Styrene	ND	1.0	ug/L	0.30
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.40
1,2,4-Trichloro- benzene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
Trichlorofluoromethane	ND	2.0	ug/L	0.30
1,2,3-Trichloropropane	ND	1.0	ug/L	0.40
1,1,2-Trichlorotrifluoro- ethane	ND	1.0	ug/L	0.40
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.30
1,3,5-Trimethylbenzene	ND	1.0	ug/L	0.20
Vinyl chloride	ND	1.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20
Xylenes (total)	ND	1.0	ug/L	0.80
		PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS		
Bromofluorobenzene	89	(75 - 130)		
1,2-Dichloroethane-d4	103	(65 - 135)		
Toluene-d8	108	(80 - 130)		

SEVERN
TRENT

STL

QA/QC

QC DATA ASSOCIATION SUMMARY

E4E220134

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WATER	SW846 9060		4145601	4145330
002	WATER	SW846 9060		4145601	4145330
003	WATER	SW846 9060		4145601	4145330
004	WATER	SW846 9060		4145601	4145330
005	WATER	SW846 9060		4145601	4145330
006	WATER	SW846 9060		4145601	4145330
007	WATER	SW846 8260B		4147474	4147291
008	WQ	SW846 8260B		4147474	4147291

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #....: E4E220134
MB Lot-Sample #: E4E260000-474

Work Order #....: GG5VR1AA

Matrix.....: WATER

Analysis Date...: 05/25/04
Dilution Factor: 1

Prep Date.....: 05/25/04

Analysis Time...: 17:30

Prep Batch #....: 4147474

Instrument ID...: MSR

Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromobenzene	ND	1.0	ug/L	SW846 8260B
Bromochloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
n-Butylbenzene	ND	1.0	ug/L	SW846 8260B
sec-Butylbenzene	ND	1.0	ug/L	SW846 8260B
tert-Butylbenzene	ND	1.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
2-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
4-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	2.0	ug/L	SW846 8260B
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	SW846 8260B
Dibromomethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	2.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
1,3-Dichloropropane	ND	1.0	ug/L	SW846 8260B
2,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #....: E4E220134

Work Order #....: GG5VR1AA

Matrix.....: WATER

PARAMETER	RESULT	REPORTING			METHOD
		LIMIT	UNITS		
Hexachlorobutadiene	ND	1.0	ug/L		SW846 8260B
2-Hexanone	ND	5.0	ug/L		SW846 8260B
Isopropylbenzene	ND	1.0	ug/L		SW846 8260B
p-Isopropyltoluene	ND	1.0	ug/L		SW846 8260B
Methylene chloride	ND	1.0	ug/L		SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L		SW846 8260B
Methyl tert-butyl ether	ND	1.0	ug/L		SW846 8260B
Naphthalene	ND	1.0	ug/L		SW846 8260B
n-Propylbenzene	ND	1.0	ug/L		SW846 8260B
Styrene	ND	1.0	ug/L		SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L		SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L		SW846 8260B
Tetrachloroethene	ND	1.0	ug/L		SW846 8260B
Toluene	ND	1.0	ug/L		SW846 8260B
1,2,3-Trichlorobenzene	ND	1.0	ug/L		SW846 8260B
1,2,4-Trichloro- benzene	ND	1.0	ug/L		SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L		SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L		SW846 8260B
Trichloroethene	ND	1.0	ug/L		SW846 8260B
Trichlorofluoromethane	ND	2.0	ug/L		SW846 8260B
1,2,3-Trichloropropane	ND	1.0	ug/L		SW846 8260B
1,1,2-Trichlorotrifluoro- ethane	ND	1.0	ug/L		SW846 8260B
1,2,4-Trimethylbenzene	ND	1.0	ug/L		SW846 8260B
1,3,5-Trimethylbenzene	ND	1.0	ug/L		SW846 8260B
Vinyl chloride	ND	1.0	ug/L		SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L		SW846 8260B
o-Xylene	ND	1.0	ug/L		SW846 8260B
Xylenes (total)	ND	1.0	ug/L		SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Bromofluorobenzene	86	(75 - 130)
1,2-Dichloroethane-d4	98	(65 - 135)
Toluene-d8	109	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #....: E4E220134

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	ND	1.0	mg/L	SW846 9060	05/24/04	4145601
Work Order #: GG0JA1AA MB Lot-Sample #: E4E240000-601						
Dilution Factor: 1						
Analysis Time...: 15:04 Analyst ID.....: 999995 Instrument ID...: W08						

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E4E220134 Work Order #....: GG5VR1AC Matrix.....: WATER
 LCS Lot-Sample#: E4E260000-474
 Prep Date.....: 05/25/04 Analysis Date...: 05/25/04
 Prep Batch #....: 4147474 Analysis Time...: 16:49
 Dilution Factor: 1 Instrument ID...: MSR
 Analyst ID.....: 015590

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	101	(75 - 125)	SW846 8260B
Chlorobenzene	96	(75 - 125)	SW846 8260B
1,1-Dichloroethene	104	(65 - 135)	SW846 8260B
Toluene	102	(75 - 125)	SW846 8260B
Trichloroethene	96	(75 - 135)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 130)
1,2-Dichloroethane-d4	96	(65 - 135)
Toluene-d8	108	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E4E220134 Work Order #....: GG5VR1AC Matrix.....: WATER
 LCS Lot-Sample#: E4E260000-474
 Prep Date.....: 05/25/04 Analysis Date...: 05/25/04
 Prep Batch #....: 4147474 Analysis Time...: 16:49
 Dilution Factor: 1 Instrument ID...: MSR
 Analyst ID.....: 015590

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	10.0	10.1	ug/L	101	SW846 8260B
Chlorobenzene	10.0	9.65	ug/L	96	SW846 8260B
1,1-Dichloroethene	10.0	10.4	ug/L	104	SW846 8260B
Toluene	10.0	10.2	ug/L	102	SW846 8260B
Trichloroethene	10.0	9.59	ug/L	96	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 130)
1,2-Dichloroethane-d4	96	(65 - 135)
Toluene-d8	108	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #....: E4E220134

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	106	(85 - 115)	SW846 9060	05/24/04	4145601
Work Order #: GG0JA1AC			LCS Lot-Sample#: E4E240000-601		
Dilution Factor: 1			Analysis Time...: 15:04		
Instrument ID...: W08			Analyst ID.....: 999995		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E4E220134 Work Order #....: GGVXW1AM-MS Matrix.....: WATER
 MS Lot-Sample #: E4E220140-009 GGVXW1AN-MSD
 Date Sampled...: 05/20/04 15:26 Date Received...: 05/21/04 16:15 MS Run #.....: 4147291
 Prep Date.....: 05/25/04 Analysis Date...: 05/26/04
 Prep Batch #....: 4147474 Analysis Time...: 01:21
 Dilution Factor: 1 Analyst ID.....: 015590 Instrument ID...: MSR

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	97	(75 - 125)			SW846 8260B
	89	(75 - 125)	8.8	(0-25)	SW846 8260B
Chlorobenzene	94	(75 - 125)			SW846 8260B
	93	(75 - 125)	0.85	(0-25)	SW846 8260B
1,1-Dichloroethene	100	(65 - 135)			SW846 8260B
	101	(65 - 135)	0.99	(0-25)	SW846 8260B
Toluene	102	(75 - 125)			SW846 8260B
	99	(75 - 125)	3.5	(0-25)	SW846 8260B
Trichloroethene	89	(75 - 135)			SW846 8260B
	87	(75 - 135)	2.7	(0-25)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	97	(75 - 130)
	97	(75 - 130)
1,2-Dichloroethane-d4	100	(65 - 135)
	99	(65 - 135)
Toluene-d8	107	(80 - 130)
	106	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E4E220134 Work Order #....: GGVXW1AM-MS Matrix.....: WATER
 MS Lot-Sample #: E4E220140-009 GGVXW1AN-MSD
 Date Sampled....: 05/20/04 15:26 Date Received...: 05/21/04 16:15 MS Run #.....: 4147291
 Prep Date.....: 05/25/04 Analysis Date...: 05/26/04
 Prep Batch #....: 4147474 Analysis Time...: 01:21
 Dilution Factor: 1 Analyst ID.....: 015590 Instrument ID...: MSR

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	ND	10.0	9.70	ug/L	97		SW846 8260B
	ND	10.0	8.88	ug/L	89	8.8	SW846 8260B
Chlorobenzene	ND	10.0	9.42	ug/L	94		SW846 8260B
	ND	10.0	9.34	ug/L	93	0.85	SW846 8260B
1,1-Dichloroethene	ND	10.0	9.96	ug/L	100		SW846 8260B
	ND	10.0	10.1	ug/L	101	0.99	SW846 8260B
Toluene	ND	10.0	10.2	ug/L	102		SW846 8260B
	ND	10.0	9.90	ug/L	99	3.5	SW846 8260B
Trichloroethene	ND	10.0	8.93	ug/L	89		SW846 8260B
	ND	10.0	8.69	ug/L	87	2.7	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	97	(75 - 130)
	97	(75 - 130)
1,2-Dichloroethane-d4	100	(65 - 135)
	99	(65 - 135)
Toluene-d8	107	(80 - 130)
	106	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E4E220134

Matrix.....: WATER

Date Sampled...: 05/21/04 09:02 Date Received...: 05/21/04 17:35

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)			WO#:	GGVT51AC-MS/GGVT51AD-MSD	MS Lot-Sample #:	E4E220134-001
	89	(85 - 115)		SW846 9060	05/24/04	4145601
	91	(85 - 115)	1.4 (0-20)	SW846 9060	05/24/04	4145601
Dilution Factor: 1						
Analysis Time...: 15:04		Instrument ID...: W08		Analyst ID.....: 999995		
MS Run #.....: 4145330						

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #....: E4E220134

Matrix.....: WATER

Date Sampled....: 05/21/04 09:02 Date Received...: 05/21/04 17:35

PARAMETER	SAMPLE SPIKE AMOUNT	AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Organic Carbon (TOC)	WO#: GGVT51AC-MS/GGVT51AD-MSD MS Lot-Sample #: E4E220134-001								
	6.5	25.0	28.8	mg/L	89		SW846 9060	05/24/04	4145601
	6.5	25.0	29.2	mg/L	91	1.4	SW846 9060	05/24/04	4145601
Dilution Factor: 1									
Analysis Time...: 15:04 Instrument ID...: W08 Analyst ID.....: 999995									
MS Run #.....: 4145330									

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.